

U.S. Application No. 10/089,430
Reply to Office Action dated June 27, 2006

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PATENT
450108-03399

AUG 28 2006

REMARKS/ARGUMENTS

Reconsideration and withdrawal of the rejections and objections of this application are respectfully requested in view of the amendments and remarks herein, which place the application into condition for allowance. The present amendment is being made to facilitate prosecution of the application.

I. STATUS OF THE CLAIMS AND FORMAL MATTERS

Claims 1-2, 4-5, 7-8, 10-11, 13-14, and 16-17 are currently pending. Claims 1, 4, 7, 10, 13, and 16 are independent. Claims 1-2, 4-5, 7-8, 11, 13-14, and 16-17 are hereby amended. Claims 3, 6, 9, 12, 15, and 18 are hereby canceled, without prejudice or disclaimer of subject matter.

The present Amendment obviates the objection to the claims.

No new matter has been introduced into the Application by this Amendment. Support for this amendment is provided throughout the Specification as originally filed, and specifically at pages 25-29 and Figure 3.

Changes to claims are not made for the purpose of patentability within the meaning of 35 U.S.C. §101, §102, §103, or §112. Rather, these changes are made simply for clarification and to round out the scope of protection to which Applicants are entitled.

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II. OBJECTIONS TO THE SPECIFICATION

The Examiner is thanked for withdrawing the objections regarding issues (c), (d), (e), and (f).

The Amendment filed April 5, 2006 was objected to under 35 U.S.C. §132(a) for allegedly introducing new matter into the Specification. The Specification was objected to because the Hamming window described in Equation 4 on page 12 of the Specification was allegedly different from the well-known Hamming function definition. In the interest of advancing prosecution, in the Amendment filed April 5, 2006, Applicants amended Equation 4 to the standard Hamming function definition. The Examiner is directed to the *well-known* signal processing textbook by A.V. Oppenheim and R.W. Schaffer, *Discrete-Time Signal Processing*, published by Prentice-Hall in 1989 (pages 447-448) for the expression of the standard Hamming function equation. One of ordinary skill in the art would be very familiar with the standard Hamming function expression. In addition, the Examiner is directed to the website <http://www.mathworks.com/access/helpdesk/help/toolbox/signal/hamming.htm> for another disclosure of the *well-known* Hamming function expression. Finally, if the Examiner is still unconvinced, he is directed to the website <http://www.lohninger.com/helpsuite/weightingwindow.htm> for an expression of the Hamming function that matches original Equation (4). Applicants are attaching copies of the two websites for the convenience of the Examiner.

(1) Paragraph numbers, which were taken from the USPTO's published application, have been removed from the present Amendment, thereby obviating the objection.

(2) *The third paragraph on page 6 was objected to because the term "data value [level]" was allegedly unclear.*

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(3) Equation 10 on page 26 has been presented in larger font, thereby obviating the objection.

(4) The third paragraph on page 28 has been amended, thereby obviating the objection. Additionally, Applicants respectfully submit that the relationship between device 30 and device 10 is explained on page 20, third paragraph. The learning circuit of device 30 is used to generate prediction coefficients, which are stored in the prediction coefficient memory 15 of device 10, which are then used to prediction-operate the digital signal input by device 10 in order to improve sound quality. Applicants respectfully submit that the exact structural relationship between device 10 and device 30 is a matter of *design choice*. For example, device 30 and device 10 may be implemented in one physical device, or they may be implemented in physically separate devices that communicate the prediction coefficients. Accordingly, the exact structural relationship between device 30 and device 10 are unnecessary for a proper understanding of the claimed scope of the invention.

In light of the present Amendment and for all the reasons stated above, Applicants respectfully request that the objections to the Specification be withdrawn.

III. REJECTIONS UNDER 35 U.S.C. §112

Claims 3, 6, 9, 12, 15, and 18 were rejected under 35 U.S.C. §112, first and second paragraphs. Claims 3, 6, 9, 12, 15, and 18 were canceled, without prejudice or disclaimer of subject matter, thereby obviating these rejections.

The Examiner is thanked for withdrawing the rejection of claims 1-2, 4-5, 7-8, 10-11, 13-14, and 16-17 under 35 U.S.C. §112, first paragraph.

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IV. REJECTIONS UNDER 35 U.S.C. §103(a)

Claims 1-2, 4-5, 7-8, 10-11, 13-14, and 16-17 were rejected under 35 U.S.C. §103(a) as allegedly unpatentable over U.S. Patent No. 6,360,198 to Imai et al. (hereinafter, merely "Imai") in view of U.S. Published Patent Application No. 2002/0138256 to Thyssen (hereinafter, merely "Thyssen").

Claim 1 recites, *inter alia*:

"... a step of selecting a prediction method corresponding to the obtained class; and

a step of generating a new digital audio signal which is obtained by the digital audio signal, by prediction-operating the digital audio signal by the selected prediction method corresponding to the obtained class." (Emphasis added)

As understood by Applicants, Imai relates to an audio processing method capable of outputting voice having regular pitch regardless of reproduction speed. An audio processing method of, when reproducing, at a reproduction speed different from that at which an audio signal have been recorded in a recording medium, the audio signal on the recording medium, adjusting the pitch of the reproduced audio signal.

As understood by Applicants, Thyssen relates to a multi-rate speech codec that supports a plurality of encoding bit rate modes by adaptively selecting encoding bit rate modes to match communication channel restrictions. The encoder generates pluralities of code-vectors from a single, normalized code-vector by shifting or other rearrangement. As a result, searching speeds are enhanced, and the physical size of a codebook built from such code-vectors is greatly reduced.

Applicants respectfully submit that nothing has been found in Imai or Thyssen, taken alone or in combination, which would teach or suggest the above-identified features of

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claim 1. Specifically, neither Imai nor Thyssen, taken alone or in combination, disclose or suggest, a step of selecting a prediction method corresponding to the obtained class, or a step of generating a new digital audio signal which is obtained by the digital audio signal, by prediction-operating the digital audio signal by the selected prediction method corresponding to the obtained class, all as recited in claim 1. Nothing has been found in Imai or Thyssen to suggest that the prediction method is selected to correspond to the obtained class, as required by claim 1.

Additionally, Applicants respectfully submit that there is no motivation, suggested or implied, within either Imai, Thyssen, or one of ordinary skill in the art, to combine the reference teachings to make the claimed invention. There is no motivation or suggestion in Imai or Thyssen to prediction-operate the digital signal by the selected prediction method corresponding to the obtained class, as recited in claim 1. The Office Action relies on paragraph 4 of Thyssen for a motivation to combine the reference teachings. However, Applicants respectfully submit the reasons identified by the Office Action on page 4, last paragraph, are merely elements from the prior art, and *cannot* serve as motivations to combine Thyssen's teachings with Imai.

Applicants respectfully submit that *impermissible hindsight* reconstruction of the claimed invention using elements of the prior art is *not* allowed under 35 U.S.C. §103 (see MPEP §2142). Applicants respectfully submit that the Office Action has merely created a mosaic of features from the prior art, without either a clear motivation or a suggestion of the desirability of the combination. As noted above, the Office Action has merely provided references to teach individual aspects of the claimed invention in total isolation, and has not established a *prima facie* case of obvious. The Office Action has failed to provide an objective reason to *combine* the disparate and unrelated teachings of the references into the claimed

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combination. In fact, the prior art of record *totally lacks* any suggestion or motivation to prediction-operate the digital signal by the selected prediction method corresponding to the obtained class, as recited in claim 1.

The motivation has to come from the prior art *before Applicant's date of invention*, and cannot be gleaned from Applicants' own disclosure. However, it appears that the Office Action has improperly relied on Applicants' *own disclosure* for a motivation to combine the reference teachings, which is impermissible.

For all the reasons stated above, Applicants respectfully submit that claim 1 is patentable.

For reasons similar to, or somewhat similar to, those described above with regard to independent claim 1, independent claims 4, 7, 10, 13, and 16 are also patentable.

V. DEPENDENT CLAIMS

The other claims are each dependent from one of the independent claims, discussed above, and are therefore patentable for at least the same reasons. Since each dependent claim is also deemed to define an additional aspect of the invention, however, the individual reconsideration of the patentability of each on its own merits is respectfully requested.

CONCLUSION

In the event the Examiner disagrees with any of statements appearing above with respect to the disclosure in the cited references, it is respectfully requested that the Examiner specifically indicate those portions of the reference, or references, providing the basis for a contrary view.

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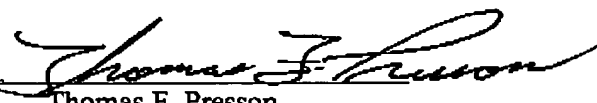
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In view of the foregoing amendments and remarks, it is believed that all of the
claims in this application are in condition for allowance and Applicants respectfully request early
passage to issue of the present application.

Respectfully submitted,

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